

38.197

Work Order ID 136135

Friday, August 28, 2015 1:53:03 PM

136135

Page 1

Item ID: 646.3013

Revision ID:

Item Name: Blade

Start Date: 8/28/2015 Start Qty: 12.00

Required Date: 8/28/2015 Req'd Qty: 12.00

Reference:

Accept

N900040100Setup Start ***NS1***Stop ***NS2***

Cust Item ID:

Customer:

Approvals: Process Plan: SH/LL **20150831** Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
646.3000	N/C

100

0.00

100

BAND SAW

Bandsaw

Memo

0.01

Jeaspa Bandsaw

Cut Blank at 4.930"

12 0 215-11-26

110

0.00

110

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.15

HAAS CNC vertical machine #1

1-Machine per folio FB150

DWG REV: N/CFOLIO REV: AA

12 0 215-12-3

2- deburr and break all sharp edges except otherwise noted

KNIFE EDGE MUST BE SHARPENED USING STONE, REMOVE ALL
BURRS ON CUTTING EDGE

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 136135

Friday, August 28, 2015 1:53:03 PM

136135

Page 3

Item ID: 646.3013 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Blade
 Start Date: 8/28/2015 Start Qty: 12.00 ***12*** Cust Item ID:
 Required Date: 8/28/2015 Req'd Qty: 12.00 ***12*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.00							
Packaging									
155	QC5- Inspect part completeness to step on W/O	0.00							
155									
QC	Memo	0.00							
Quality Control									
160	Spray Painting per QSI005 4.2	0.00							
160									
SprayPaint	Memo	0.01							
Spray Painting	PRIME AS PER DWG, SEE NOTE #4								
	PRIMER BATCH: <u>132403</u>								

12x SP/6-01-14

(12) DAS 38 9-89 JAN 15 2016

12 DAS 41 9-89 16-1-19

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Work Order ID 136135

136135

Page 4

Friday, August 28, 2015 1:53:03 PM

Item ID: 646.3013 Accept *N900040100* Setup Start *NS1*

Revision ID: Stop *NS2*

Item Name: Blade

Start Date: 8/28/2015 Start Qty: 12.00 *12* Cust Item ID:

Required Date: 8/28/2015 Req'd Qty: 12.00 *12* Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	QC14- Inspect Spray Paint	0.00							
170						(12)			DAS 38 9-89
QC	Memo	0.00							JAN 20 2016
Quality Control									

180	Identify as per dwg & Stock Location: CCK 103	0.00							
180						12			DAS 6 9-89
Packaging	Memo	0.00							JAN 20 2016
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								

190	QC21- Final Inspection - Work Order Release	0.00							
190									
QC	Memo	0.00							JAN 20 2016
Quality Control									

MCS JAN 20 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Picklist Print

Friday, August 28, 2015 1:53:08 PM

Page 1

Work Order ID: 136135

136135

Parent Item: 646.3013

646 3013

Parent Item Name: Blade

Start Date: 8/28/2015

Required Date: 8/28/2015

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP REV:A NEW ISSUE 12/11/09 JFS VERIFY BY: JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MSTEEL-A2- B0.500X1.250		Purchased		No		100	f	142.4520	0.411	5.191579			

MSTFFI -A2-B0 500X1 250

AISI A2 TOOL STEEL BAR, 0.500 X 1.250

SL 15-11-26

Location

Loc Qty

Loc Code

MAT010

142.452

M126438

5.452

M127494

9

M131783

128

5.0

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

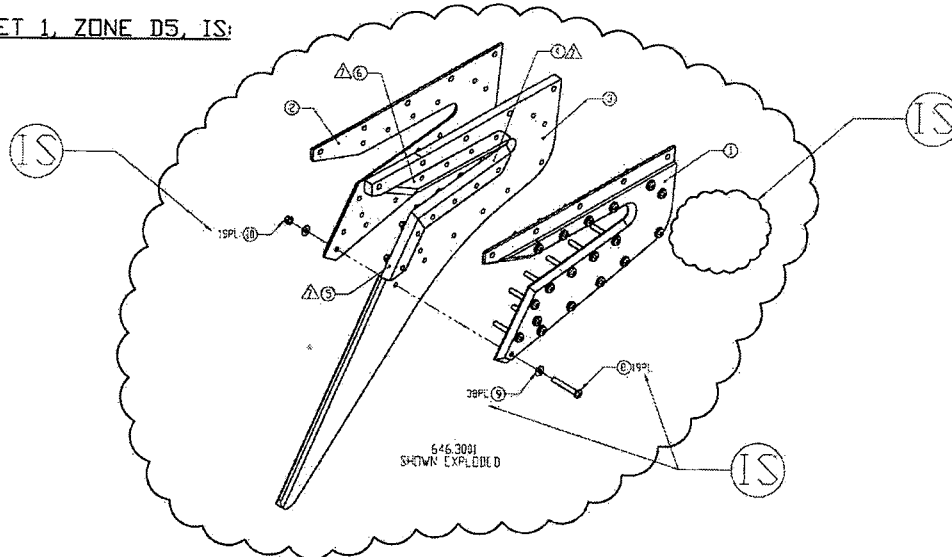
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

20150831
SH 136135

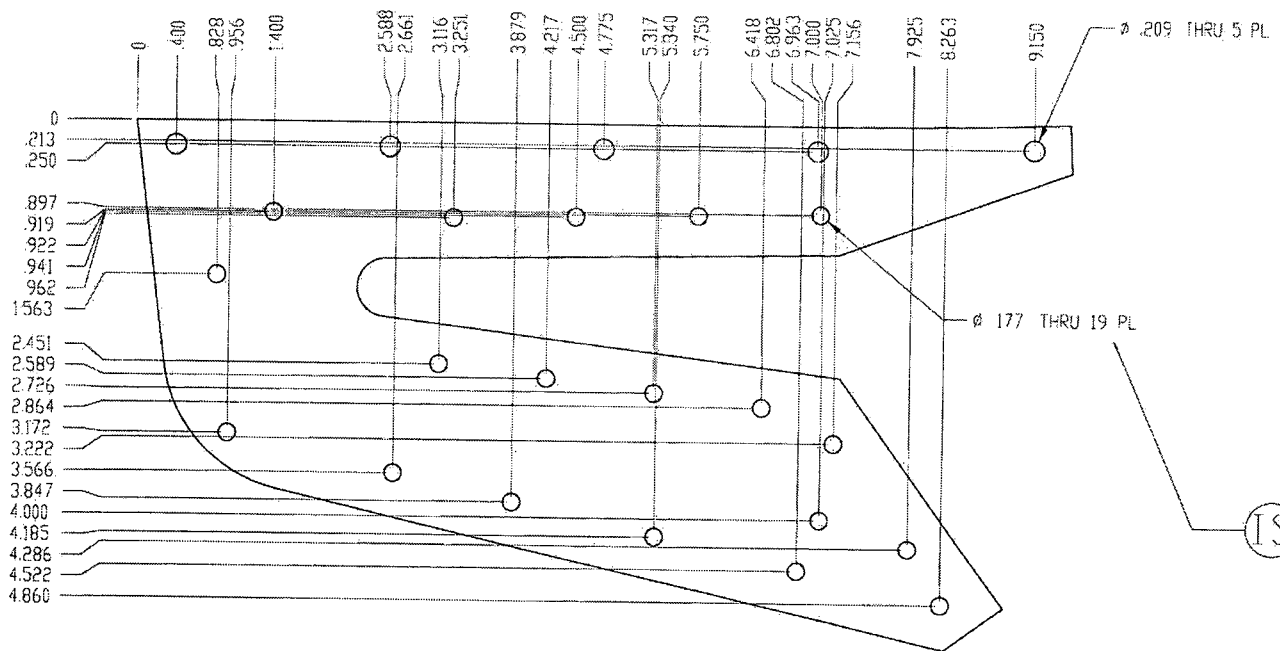
APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 02195		SHEET 1 OF 4	
	DWG NO. 646.3000	REV: N/C	PREPARED BY S. HUFF	DATE: 01/05/09
	EFFECT ON DWG ☐ INC. ☒ UNINC.			
DWG TITLE: LOWER CUTTER ASSY				
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: NEXT ORDER
REASON: REMOVED RIVETS IN FAVOR OF ADDITIONAL SCREWS				
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE				

SHEET 1, ZONE D5, IS:



10	R	601.1541	19	LOCKNUT	MS21042L08
9	R	601.2764	38	WASHER	NAS1149FN832P
8	R	601.2765	19	SCREW	MS27039-0819
7	D	601.2766	2	RIVET	MS20470AD5-18
			.3001		
F/N TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION	
DOCUMENTS EFFECTED:					CHANGE CATEGORY
☐ MDL ☒ INSTALL INSTRU ☒ ICA ☐ FMS ☒ BOM					☐ MAJOR ☒ MINOR
					DER REVIEW REQUIRED
					☐ YES ☒ NO

SHEET 3 IS:



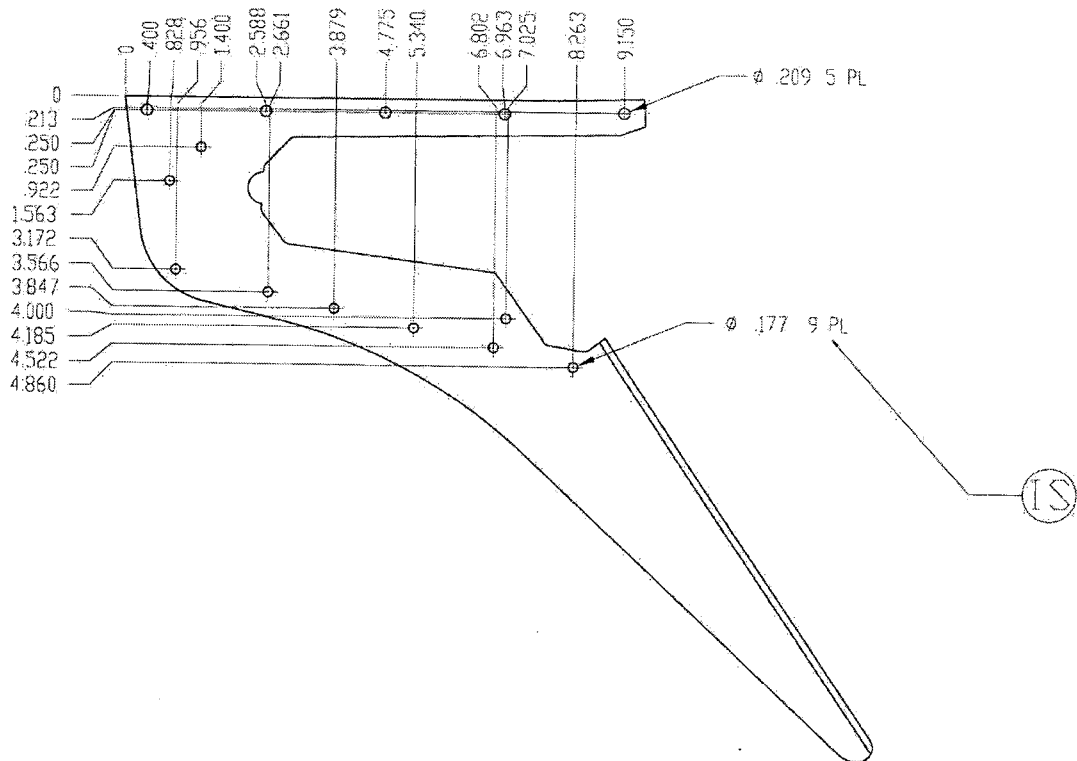
F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION

APICAL INDUSTRIES, INC.

ENGINEERING CHANGE ORDER NO. 02195

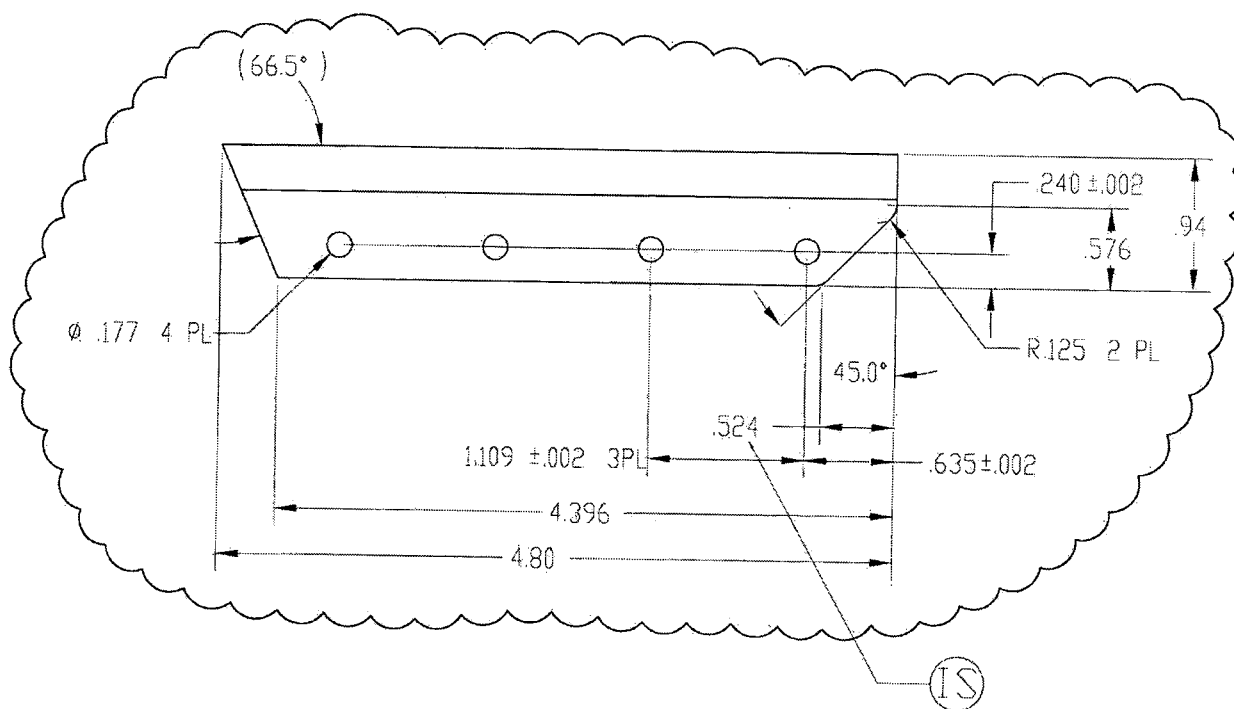
SHEET 3 OF 4

SHEET 5 IS:



F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION

SHEET 6, ZONE C4, IS:

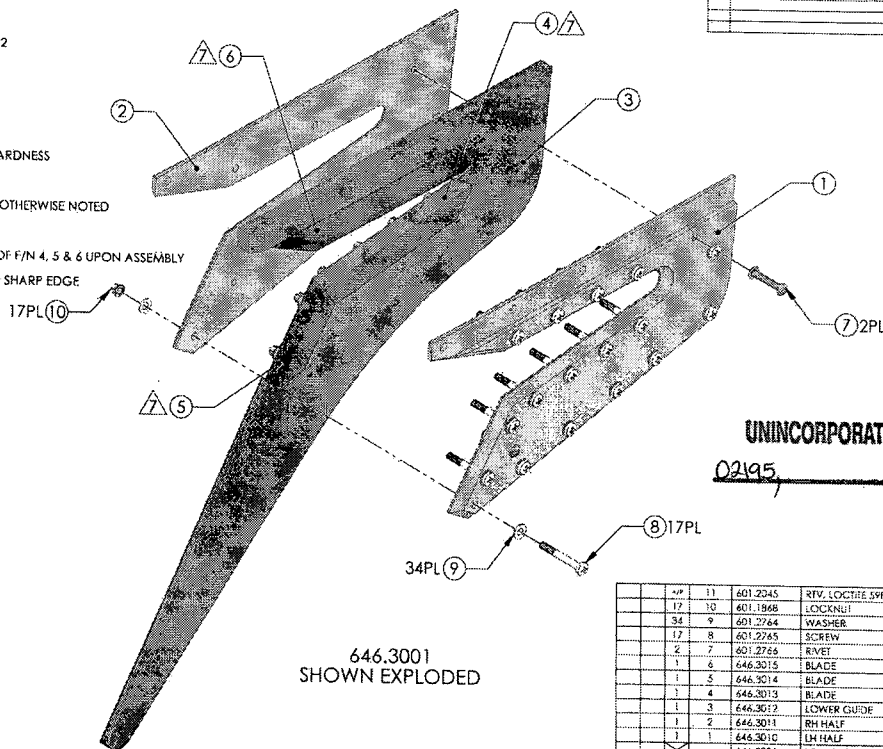


F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION

ALL INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES AND IS NOT TO BE REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS FORWARDED.

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; CARDINAL 4860-S0 PRETREATMENT PRIMER PRIME IAW MIL-P-23377J TYPE I CLASS N
- 3 MATERIAL: AISI A2 TOOL STEEL
- 4 CONDITION: ANNEALED
- 5 POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 6 FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N
- 7 5. DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
- 8 6. IDENTIFY IAW MPP-120
- 9 7. APPLY F/N 11 AS REQUIRED TO ALL FAYING SURFACES OF F/N 4, 5 & 6 UPON ASSEMBLY
- 10 8. CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE



UNINCORPORATED ECN(S)

02195

QTY	REV	DESCRIPTION	MAT'L	SPEC.
1	11	601.2045	RTV, LOCTITE 598	
1	12	601.1868	LOCKNUT	
1	13	601.2744	WASHER	
1	14	601.2745	SCREEN	
1	15	601.2746	SCREEN	
1	16	646.3015	BLADE	
1	17	646.3014	BLADE	
1	18	646.3013	BLADE	
1	19	646.3012	LOWER GUIDE	
1	20	646.3011	RH HALF	
1	21	646.3010	LH HALF	
1	22	646.3001	LOWER CUTTER ASSY	
QTY	REV	DESCRIPTION	MAT'L	SPEC.
1	11	601.2045	RTV, LOCTITE 598	
1	12	601.1868	LOCKNUT	
1	13	601.2744	WASHER	
1	14	601.2745	SCREEN	
1	15	601.2746	SCREEN	
1	16	646.3015	BLADE	
1	17	646.3014	BLADE	
1	18	646.3013	BLADE	
1	19	646.3012	LOWER GUIDE	
1	20	646.3011	RH HALF	
1	21	646.3010	LH HALF	
1	22	646.3001	LOWER CUTTER ASSY	

646.4000

APICAL INDUSTRIES

2400 TEMPLE HEIGHTS DR.

OCEANSIDE, CA 92056-3512 (760) 724-5300

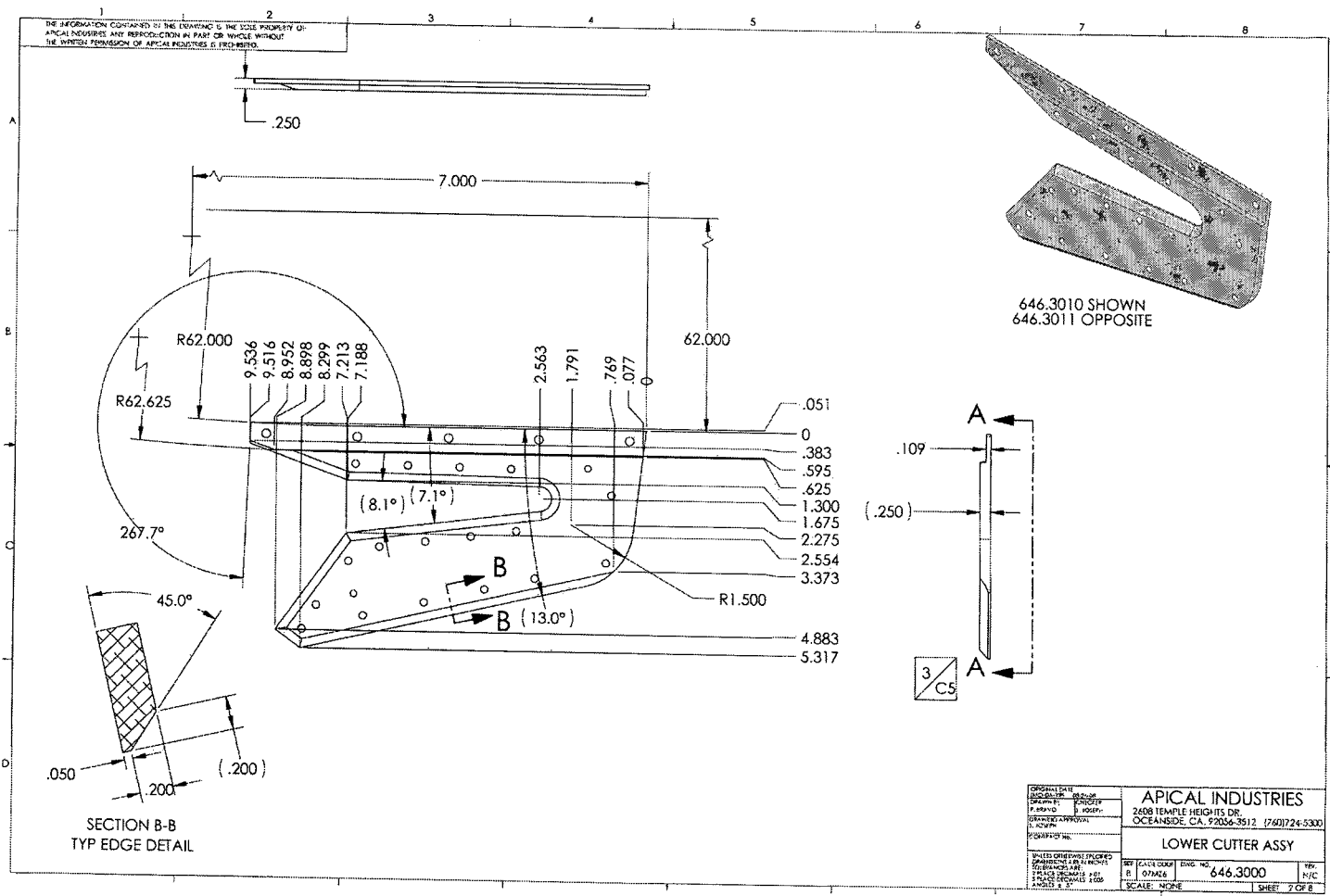
LOWER CUTTER ASSY

646.3000

SCALE: NONE

SHEET 1 OF 8

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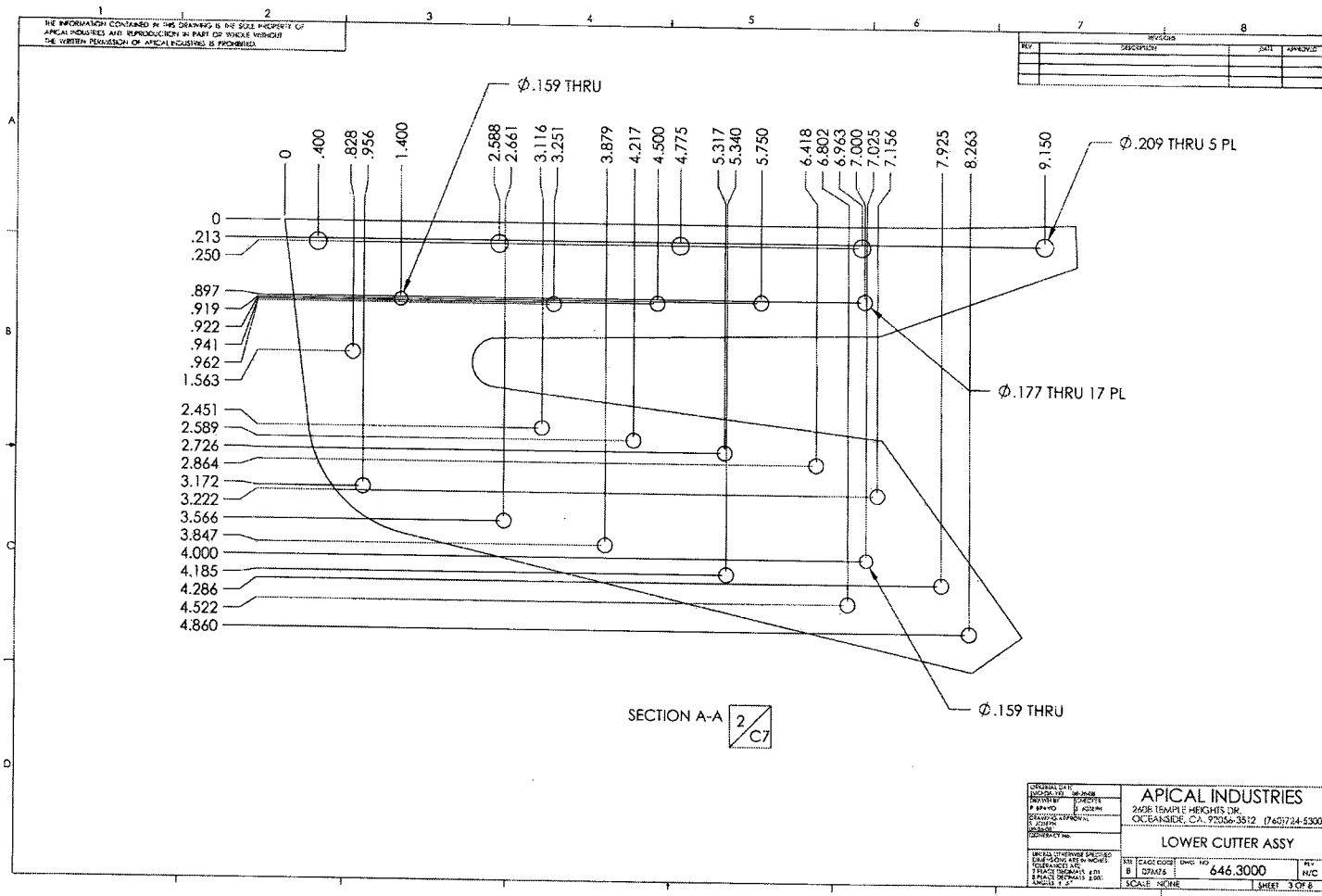


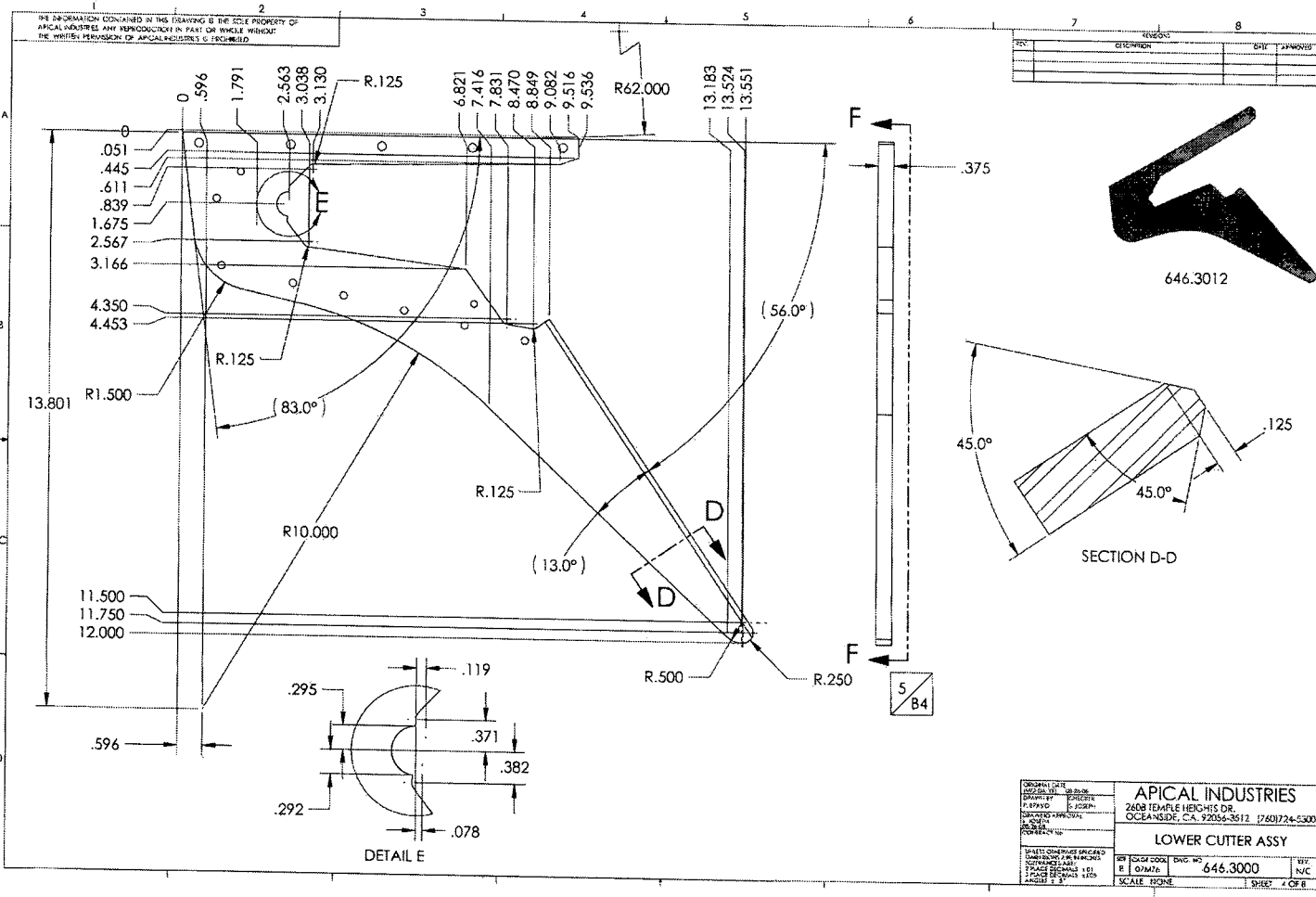
ORGANIZATION APICAL INDUSTRIES	2400 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760)724-5300
DESIGNER P. HENDON	DATE 07/24/86
CHECKED D. HENDON	REV. NO. 07/24/86
APPROVED P. HENDON	SCALE NONE
DATE ORDERED 07/24/86	REV. NO. 07/24/86
QUANTITY 1	REV. NO. 07/24/86
PRICE \$1.00	REV. NO. 07/24/86
APICAL INDUSTRIES	REV. NO. 07/24/86

APICAL INDUSTRIES
2400 TEMPLE HEIGHTS DR.
OCEANSIDE, CA 92056-3512 (760)724-5300
LOWER CUTTER ASSY
646.3000
N/C
SHEET 2 OF 8

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REV	DESCRIPTION	DATE	APPROVED



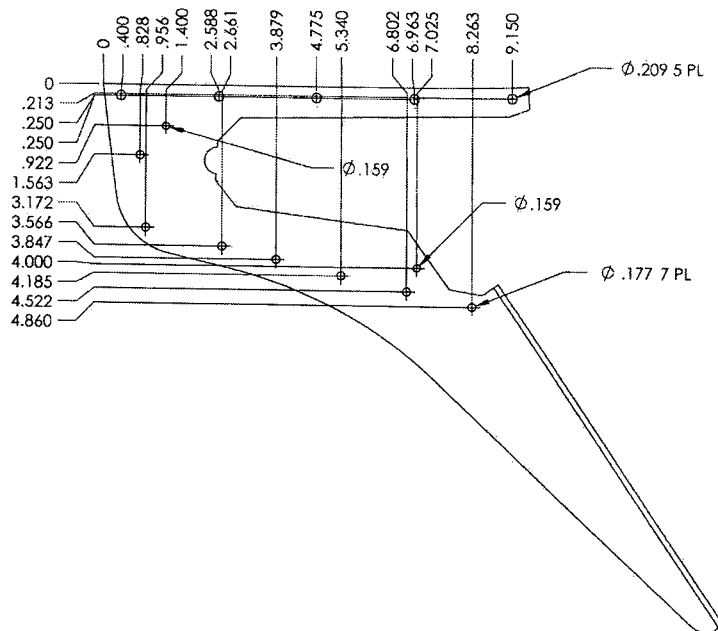


REV	DESCRIPTION	DATE	APPROVED

DRAWN BY: J. B. BROWN CHECKED BY: J. B. BROWN DESIGNED BY: J. B. BROWN DATE: 10/1/84 PROJECT: 646.3012		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
SHEET: 4 OF 6 TITLE: LOWER CUTTER ASSY		SCALE: NONE	

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES AND REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

REV	DESCRIPTION	DATE	APPROVED

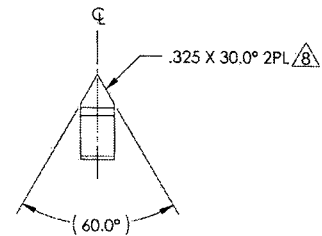
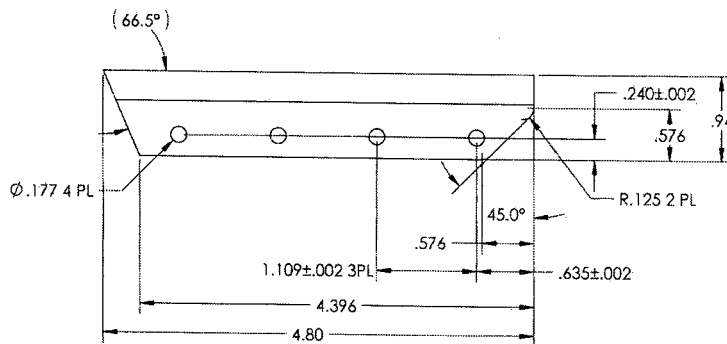
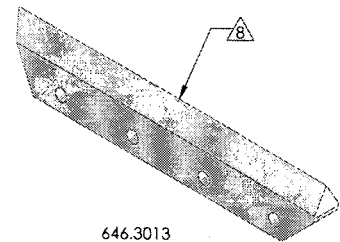


SECTION F-F 4
B6

CUSTOMER: APICAL INDUSTRIES PROJECT: 2608 TEMPLE HEIGHTS DR. DRAWN BY: P. BAYARD CHECKED BY: P. JOSEPH DATE: 10/12/12 SCALE: NONE	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760) 724-5300 LOWER CUTTER ASSY 646.3000 SHEET 3 OF 8
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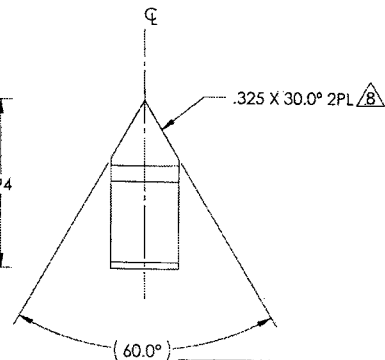
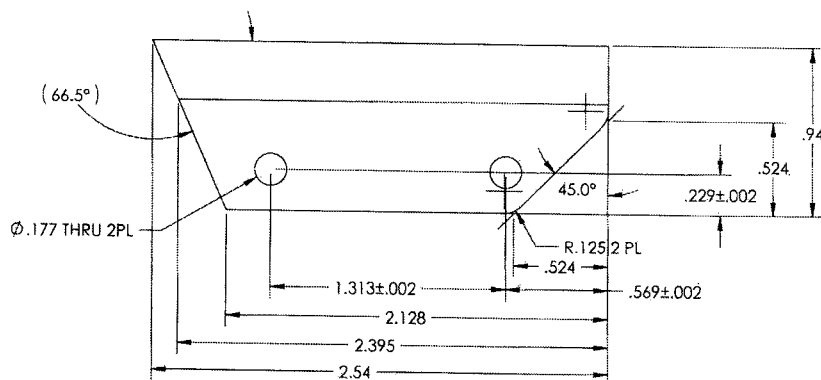
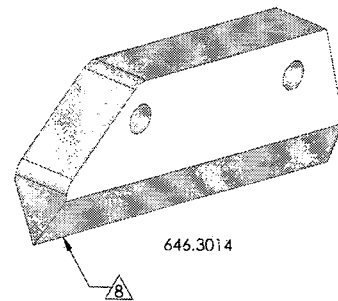
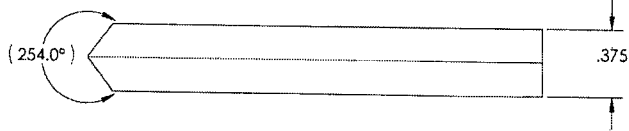
REV.	DESCRIPTION	DATE	APPROVED



DESIGNED BY: [blank] DRAWN BY: [blank] CHECKED BY: [blank] APPROVED BY: [blank] DATE: [blank]	APICAL INDUSTRIES 2408 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-3300 LOWER CUTTER ASSY 646.3000 8 OF 8 SCALE: NONE 1 SHEET
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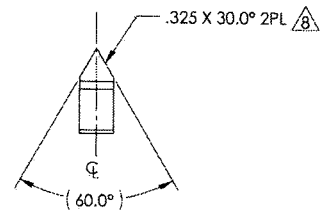
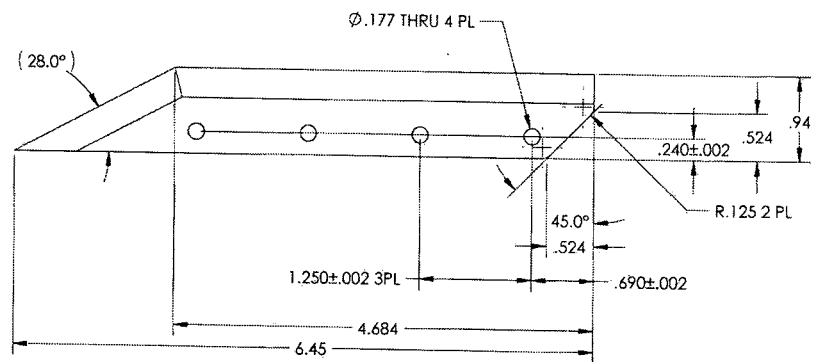
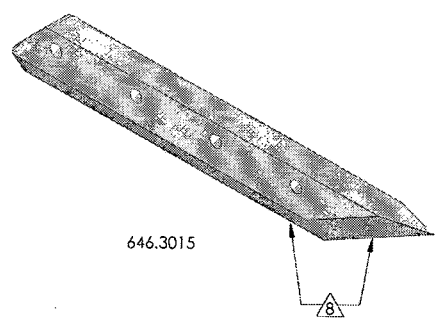
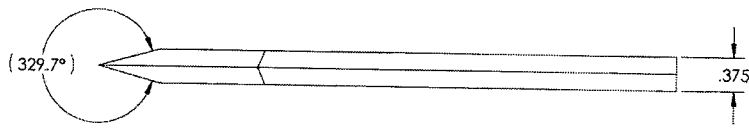
REV.	DESCRIPTION	DATE	APPROVED



PROJECT NAME 2408 TEMPLE HEIGHTS DR OCEANSIDE, CA 92056-3512 (760) 724-5300 DRAWN BY CHECKED BY APPROVED BY DATE SCALE	APICAL INDUSTRIES 2408 TEMPLE HEIGHTS DR OCEANSIDE, CA 92056-3512 (760) 724-5300 LOWER CUTTER ASSY 646.3000 SCALE: NONE 1 SHEET 7 OF 8
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REV.	DESCRIPTION	DATE	DRAWN BY



APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3312 (760)724-3300	REV. 001 DATE 07/04/04 SCALE NONE	DRG. NO. 646.3000 REV. 001	REV. 001 DATE 07/04/04 SCALE NONE
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LOWER CUTTER ASSY

SHEET 8 OF 8



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO30868**

Purchase Order Date 1/5/2016

PO Print Date 1/5/2016

Page Number 1 of 3

Order From :

VC-MET004

Ship To : DART AEROSPACE LTD

METCOR INC.
560 BOUL. ARTHUR SAUVE
SAINT-EUSTACHE, QC J7R 5A8
CA

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 450 473 1884

Ship To Contact

Ship To Phone

Ship Via: FedEx Overnight collect

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	136135	646.3013 BLADE	1/19/2016 Yes 1/19/2016		12.00	\$0.00	\$0.00
FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS							
PART ARE MADE FROM AISI A2 TOOL STEEL							
PLEASE NOTE: DETAIL C OF C REQUIRED							
Line Total:							\$0.00
2	136245	646.3314 BLADE	1/19/2016 Yes 1/19/2016		8.00	\$0.00	\$0.00
FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS							
PART ARE MADE FROM AISI A2 TOOL STEEL							
PLEASE NOTE: DETAIL C OF C REQUIRED							

Note:

1/5/2016

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Reçu de livraison

Delivery Receipt

BON DE TRAVAIL Order	EXPÉDITEUR Shipper ID	BON D'EXPÉDITION Shipper
307612	1	107795

EXPÉDITION COMPLÈTE / Shipped Complete

CLIENT /Customer 215

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053



LIVRÉ À / Shipped To

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

COMMANDE DU CLIENT Customer PO	BON DE LIVRAISON DU CLIENT Customer Shipper No.	TYPE DE MATÉRIEL Material Type	DATE DE LA COMMANDE Order Date	TRANSPORTEUR Carrier
30868		A2	2016/1/7	fed

QUANTITÉ Quantity	No. PIÈCE / Part No.	NOM DE LA PIÈCE / Part Name	DESCRIPTION DE LA PIÈCE Part Description	POIDS Weight
----------------------	-------------------------	--------------------------------	---	-----------------

68 646.3013 BLADE

23,32

(12) 646.3013 BLADE 136135

(8) 646.3314 136245

(18) 646.3316 136513

(30) 646.9711 138180

1 BOITE DE CARTON

Sp/6-01-14

TYPE DE CONTENEUR Container Type	# DE CONTENEURS # Of Containers	COMMENTAIRES CONTENEUR Container Comments
-------------------------------------	------------------------------------	--

BOITE DE CARTON

1

CERTIFICAT

EMPAQUETAGE Packing	
-------------------------------	--

QUANTITÉ EXPÉDIÉE / Quantity Shipped : 68

POIDS EXPÉDIÉ / Weight Shipped : 23,32

QUANTITÉ RESTANTE / Quantity Remaining : 0

POIDS RESTANT / Weight Remaining : 0,00

CERTIFICAT

QUANTITÉ EXPÉDIÉE / Quantity Shipped: 68

POIDS EXPÉDIÉ / Weight Shipped : 23,32

Signature:

Date:

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Rapport d'Inspection

Inspection Report

BON DE TRAVAIL order	CHARGEMENT load
307612	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
30868		A2		
SPÉCIFICATIONS DU PROCÉDÉ processing specifications				
VAC HARDEN				
HARDEN AND TEMPER				
EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results	
HARDNESS	58 - 62 HRC	5	59 - 61 HRC	
QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description		
68	23,32	646.3043 BLADE (12) 646.3013 BLADE 136135 (8) 646.3314 136245 (18) 646.3316 136513 (30) 646.9711 138180 1 BOITE DE CARTON		

Sp. 16-01-14

COMMENTAIRES / comments

APPROUVÉ par / Approved by:

DATE: 2016-01-10

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
307612	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	BON DE LIVRAISON DU CLIENT customer shipper no.	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
30868		A2		

SPÉCIFICATIONS DU PROCÉDÉ processing specifications

VAC HARDEN

HARDEN AND TEMPER

EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
HARDNESS	58 - 62 HRC	5	59 - 61 HRC

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
68	23.32	646.3013 BLADE (12) 646.3013 BLADE 136135 ✓ (8) 646.3314 136245 ✓ (18) 646.3316 136513 ✓ (30) 646.9711 138180 ✓ 1 BOITE DE CARTON

COMMENTAIRES / comments

VAC HARDEN 1800F, 1:30 HR
DOUBLE TEMPER 400F, 2 HRS

Heat treatment (HT) was performed with equipment that meets the requirements of requested specification. All HT operations were performed in compliance with the required HT specification and all verifications have been performed and documented. No unauthorized changes were performed in regards to the HT. We certify that the material was manufactured, sampled, tested and inspected in accordance with the material specification and the purchase order and was found to meet the requirements.

Le traitement thermique (TT) a été fait en utilisant des équipements en conformité avec la spécification demandée. Toutes les opérations de TT ont été faites en conformité avec les requis de la spécification demandée et toutes les vérifications et les tests demandés ont été faites et documentés. Aucun changement n'a été faite par rapport au TT. On certifie que le matériel a été fabriqué, échantillonné, testé et inspecté en accord avec les spécifications du matériel et le bon de commande et le matériel rencontre les exigences spécifiées.

APPROUVÉ par / Approved by:

Isabel Otero
QA Technician



DATE: 2016-01-12